Description

Making the world a better place means engaging with society. All engineering activities take place in the context of society at large. They are driven by society’s needs – for clean water, sanitation, transport, buildings, waste disposal, energy etc. – and they have an impact on society when they are implemented. Not all these interactions are positive and we need to understand how to try to make sure that our activities work for the best in society, both now and for future generations. This course explores these interactions and brings students to participate in live issues as well as to understand the impacts of engineering decisions and the role and responsibility of engineers to minimise those impacts. These concepts will be applied in Scenario A and B where the students will be given briefs that covers the societal impacts on delivering civil engineering projects.

Aims and Learning Outcomes:

This module aims to help engineering students understand that engineering decisions must be made with the needs of society and the planet at their core and to understand the potential impacts of those decisions on health and well-being.

By the end of the module students are expected to:

1. Understand the key principles of sustainable development
2. Understand the mechanisms and consequences of key environmental issues facing society today
3. Understand the negative and positive impacts of engineering on the natural, constructed and social environment
4. Understand how to take responsibility for incorporating the complex, local and global, social, political, ecological and economic context into engineering decision processes
5. Understand and know how to implement the types of policy, financial, legal and regulatory mechanisms that...
could be used to manage the impacts of engineering projects

6. Understand how to make responsible decisions in a structured and rigorous manner

7. Understand and know how to evaluate engineering projects